

**MINUTES FROM THE EPA/SCIENCE ADVISORY BOARD**  
**Environmental Economics Advisory Committee Meeting**  
**May 25, 2001**

**PURPOSE:** The Environmental Economics Advisory Committee met to:

- a) to discuss EPA's letter of intent to work across various Agency programs to determine whether it should request that EPA and the Science Advisory Board conduct a joint workshop on ways to estimate the benefits from premature mortality risk reductions that are predicted to result from environmental regulations;
- b) consult with EPA representatives on the agency's planned activities to develop analytical approaches for the implementation of Executive Order 13141 entitled *Environmental Reviews of Trade Agreements*; and
- c) to receive a briefing by EPA representatives on the Agency's economic benefit recapture approach.

The meeting was announced in the Federal Register at FR Vol. 66, No. 74, Pages 19770-19773 (April 17, 2001) (see Attachment A). An agenda is included as Attachment B.

**LOCATION:** The meeting was held at the Hilton Alexandria Old Town Hotel, 1767 King Street, Alexandria, VA 22314, (703) 837-0440.

**PARTICIPANTS:** The following SAB members participated in this meeting of the EEAC: Drs. Robert Stavins (Chairman), Dallas Burtraw, Lawrence Goulder, Gloria Helfand, Catherine Kling, Richard Norgaard, Richard Revesz, and Jason Shogren. In addition, another SAB member, Dr. Maureen Cropper participated in the meeting on each of the agenda items. Drs. Scott Barrett and Arik Levinson served as consultants to the EEAC for the trade and environment issue. A committee roster is included as Attachment C. EPA Staff and persons from the public who attended the meeting are indicated on the sign-in sheets (Attachment D).

**MEETING SUMMARY:** A summary of the committee's activities follows.

**1. Welcome and Introductory Remarks; Dr. Robert Stavins, Harvard University (9:00 am)**

Dr. Stavins called the meeting to order and welcomed the committee, Agency representatives and observers. He noted the unusual agenda for the day (a large number of agenda items with no current requirement for a formal response by the EEAC). The intent was to have an informational exchange with EPA and others in order to decide whether and how to take up any of the three potential topics in a more formal manner in the future. In addition, Dr. Stavins noted that there would be a guest speaker for the day as is the Committee's custom.

Dr. Stavins also recognized for EPA and the EEAC the "retirement" of Drs. Maureen Cropper and Trudy Cameron, both of whom left the EEAC after six years of service. He further reminded members that Dr. Herman Daly resigned from the EEAC just before the last meeting, citing his new

responsibilities at the University of Maryland. He then recognized the three new EEAC members, Drs. Michael Hanemann, University of California, Berkeley, who could not attend this meeting; Gloria Helfand, University of Michigan; and Richard Norgaard, University of California, Berkeley. Finally, he introduced the two consultants for the day's meeting, Drs. Scott Barrett, Johns Hopkins University and Arik Levinson, Georgetown University. Finally, Dr. Stavins noted those members who were unable to participate in the day's meeting (Drs. Haneman, Joskow, Jorgenson, and Sigman, who gave birth to an 8 pound 1 ounce baby girl, Darcy, on May 18, 2001)

Mr. Thomas Miller, Designated Federal Officer for the EEAC, noted that the Science Advisory Board is charged with providing independent expert scientific advice to the EPA Administrator. Members and Consultants serving in this advisory capacity are brought into the SAB process as Special Government Employees (SGEs) and as such are subject to certain Conflict of Interest (COI) and ethics regulations and guidelines which preclude their participating in activities which might significantly affect their financial interests. In addition, review panels established by the SAB are required to reflect balance in the technical views held by the panel members. He noted that based on information provided earlier by the members and the nature of the day's activities no COI is present in the panels for the meeting. He noted that it is the practice of the SAB to have its panel members disclose information on their past experience and interest in any issue on the day's agenda so that all present might learn more about the background they bring to the Committee's activities. He asked that the members introduce themselves and to indicate for the record their institutional affiliation and any additional information they considered to be of interest to those observing the proceedings regarding their research or professional activities that might bear on the day's agenda.

Members then introduced themselves and noted the following:

a) Dr. Robert Stavins noted his intent to be more thorough in his disclosure because it has been his practice to be even more revealing than necessary in regard to his background because of his role of Chairman of the Committee. He noted that he is the Albert Pratt Professor of Business and Government at the John F. Kennedy School of Government at Harvard University, Cambridge, MA. He noted that he receives periodic support from EPA under a cooperative agreement with Harvard University; and that EPA has provided support for an Executive Program short-course he chairs on "Environmental Economics for Non-Economists." He further noted his consulting work on the topic of tradeable permits.

b) Dr. Larry Goulder, is Associate Professor of Economics and a Senior Fellow at the Stanford Institute for International Studies, Stanford University, Stanford, CA. He noted that he has received EPA support for research on cost and some benefit issues. He has also done private consulting on regulatory design, benefits and cost issues.

c) Dr. Gloria Helfand, is a Professor of Environmental Economics, University of Michigan. She has occasionally received funds from EPA, but not on any issues on the day's agenda.

d) Dr. Dallas Burtraw is a Senior Fellow at Resources for the Future, Washington, DC. He has received EPA funds on benefit and cost issues – some of which are similar to the day's topics.

e) Dr. Cathy Kling is a Professor of Economics at Iowa State University, Ames, IA. She has received funding from EPA but not on the issues for the day's agenda.

f) Dr. Jason Shogren, is Stroock Distinguished Professor in the Department of Economics and Finance, University of Wyoming, Laramie, WY. He has done research on risk and trade issues and some has been for EPA. He has also done work on children's health risk models, USDA Safer Food issues, and serves on the Wyoming Environmental Policy Council.

g) Dr. Maureen Cropper is the Lead Economist, The World Bank and a Professor of Economics at the University of Maryland. She has conducted research on mortality risk valuation using survey techniques. She does not receive funds from EPA for the work.

h) Dr. Arik Levinson, Associate Professor, Economics Department, Georgetown University, Washington, DC. Noted that he has some research grants from NSF on trade and environment issues, economic growth and he has made public pronouncements on both sides of the issue.

i) Dr. Scott Barrett, Professor of Environmental Economics, Paul H. Nitze School of Advanced International Studies, Johns Hopkins University, Washington, DC. He has received research funds from the MacArthur Foundation, the United Nations, and the World Bank.

At the request of Dr. Stavins, the members of the public then introduced themselves by name and institutional affiliation so all would know who was in the room. The sign in sheets at Attachment D indicate those present at the meeting who recorded their presence.

## **2. Guest Speaker, Mr. Thomas Gibson, Associate Administrator, Office of Policy, Economics, and Innovation (9:15 am)**

Mr. Thomas Gibson was welcomed to the meeting by Dr. Stavins who noted a Committee practice of interacting with prominent officials from EPA or other departments and agencies who play particularly important roles in areas of the EEAC's interest. Mr. Gibson is the new Associate Administrator for Policy, Economics, and Innovation and Counselor to Administrator Christie Whitman (see his brief biography at Attachment E).

Mr. Gibson stated his pleasure at being with the Committee and characterized the times as exciting. He noted both the President's and the new Administrator's commitment to solid science (including economics) and the key role science plays in decision making. He also noted the Science Advisory Board's role as a lead resource in getting science aspects of decision making right. He stated that the Agency will need the Committee's help in many areas, among them: a) help in framing issues and understanding the uncertainty in the science in order to guide the Administrator's discretion in decision making and b) help in implementing the National Center for Environmental Economics' (NCEE) efforts to determine the role of economics in policy development.

Mr. Gibson noted his belief that changes that had occurred over the years in the old Office of Policy, Planning, and Evaluation, though understandable, probably went too far in moving away from their past more centralized role in economics and policy development. He suggested the need to return to some of those earlier practices, but to do so in a cooperative manner with other EPA offices.

Mr. Gibson focused his remarks on four issues: a) regulatory improvement, b) energy policy, c) trade, and d) arsenic regulatory review. In the area of **Regulatory Improvement**, Mr. Gibson discussed the 45-day study of the regulatory development process and its use of science. The ultimate goal of EPA's effort here is to achieve better use of science, including economics, in the decision making process. Mr. Gibson noted that the study is well along and a draft report is now under review with the Assistant Administrators of EPA.

One practice that Mr. Gibson sees as having promise in achieving EPA's goal for the improved use of science in decision making is the early and continuous integration of NCEE and the Office of Research and Development (ORD) into the decision making process. In this regard, Mr. Gibson stated that there is a need to obtain early agreements among the programs, NCEE, and the Office of Research and Development (ORD) on the work plan that will guide the regulatory analyses to be conducted. He suggested that the Office of General Counsel's incorporation into the regulatory development process with the Program Offices, early in and throughout the process, could be a model of how economics and other sciences could be integrated into activities that support and inform environmental decision making.

Mr. Gibson stated that many of the innovation initiatives of the last administration were good (e.g., programs like X-L). He said that these programs will be looked at and evaluated in order to strategically target those that will be further integrated into the regulatory development process. The intent is that such initiatives be designed into the process up front and not just tacked on at the end.

On the issue of **Energy Policy**, Mr. Gibson noted that in the future, regulations being sent to the Office of Management and Budget for review prior to publication in the Federal Register, will need to be accompanied by an Energy Impact analysis. EPA is in the process of determining how this requirement will be implemented.

In the area of **Trade and the Environment**, Mr. Gibson highlighted the Consultation between EPA and the EEAC on this topic later in the meeting. He stated that, for the future, evaluating the potential environmental impacts associated with trade agreements will be a big issue, and EPA will need help from the EEAC as it moves forward in implementing the requirements of the new Executive Order on Trade and the Environment.

For **Arsenic**, Mr. Gibson stated that EPA will ask the SAB for help soon. He noted that when the current administration arrived to begin its work it inherited a legacy of recently released regulations. Most of these regulations were retained; however, a few were considered not yet ready for decision making and were brought back to EPA for additional work (more information and analysis, review by the National Academy of Sciences, etc.). He stated that a Panel from the EEAC would soon be asked to look at the existing benefits analysis for arsenic. The results of the review would be used in the final decision making by EPA. He noted that the current standard is 50 micrograms arsenic/liter of drinking water and that a new standard below that will be forthcoming. He noted that a formal letter would soon be coming to the SAB on this need.

Committee members asked Mr. Gibson to respond to a number of questions. These comments and questions included:

a) The scope, size and need for the new Energy Impact Analyses that are to be prepared for future regulations.

Mr. Gibson stated that EPA is determining what it might do to respond to the requirement. They will be formulating a plan to move forward to implement the requirement. The intent is to help inform decision making with information on how regulations affect energy supplies, but the EIA is not intended to drive decision making.

b) If the early integration of science/economics into the regulatory development process, as in the OGC model, likely to help with the OMB review of pending regulations?

Mr. Gibson noted that the Office of Policy, Economics, and Innovation's role had become little more than a tracking function in recent years. Like the OGC function, the desire is for the science/economics function to be engaged early and continuously to preclude the need for painful delays when problems are identified at the end of the regulatory development process. A measure of success of this early integration approach might be the number of kickbacks EPA gets from OMB and the degree to which the integration helps the Administrator in her decision making role.

c) A previous Deputy Administrator noted enthusiasm for innovative projects like X-L, but stated that he was not sure if they were working. He indicated that the EEAC might be asked to conduct a generic review of the program. We have not done this. Has this been done elsewhere? Is it a possible future project for the EEAC?

Mr. Gibson stated that an internal review was currently underway on X-L within the Agency. We have learned much from the program, but it is not clear how it will be integrated into our regular way of doing business. Dr. McGartland noted that there are some 50 X-L projects and that some could be reviewed by the Committee. Dr. Stavins noted that the Agency's report on its internal review of X-L would be of interest to members of the EEAC.

### **3. Discussion of Premature Mortality Valuation (PMV) Issues (10:15 a.m.)**

Dr. Stavins introduced the discussion of premature mortality valuation (PMV) by reminding members that PMV was covered generally in the EEAC's interaction with EPA on the Economic Analysis Guidelines (EEAC report, 1999) and more recently in its review of an EPA "white paper" on the issue (EEAC report, 2000). The issue was also raised to the SAB in a letter from then Assistant Administrator for Air and Radiation Robert Perciasepe in December 2000 when he advised of his intent to explore, with his EPA partner offices, various venues for further clarification on this topic. The intent of the day's discussion was to consider what future steps the EEAC might take in order to help the Agency address the difficult issues that persist in this area. Dr. Stavins noted that the Committee discussion would focus on the longer term activities that the EEAC might engage in with EPA in order to answer the many remaining issues. The arsenic review mentioned in Mr. Gibson's earlier remarks would be a short term project that is related, but that would not replace this longer term focus.

Three speakers addressed the topic with the EEAC, Dr. Albert (Al) McGartland, Director of EPA's National Center for Environmental Economics, Dr. Arthur Fraas, Branch Chief, Natural

Resources Branch, Office of Information and Regulatory Affairs, U.S. Office of Management and Budget, and Dr. Andrew Keeler, Senior Staff Economist, Council of Economic Advisers (5 minutes)

Dr. Albert McGartland, Director, National Center for Environmental Economics, noted that VSL, which is at the core of the issue, is an area in which EEAC and the Council on Clean Air Act Compliance and Analysis (the Council) advice is thought by some to not be completely clear.

Dr. Andrew Keeler, CEA, noted that he has seen the issue from two perspectives: one was within EPA's Office of Air Quality Planning and Standards and the other is from his current CEA perspective. He noted the EEAC's unique and central position that permits it to see how PMV is handled in a Regulatory Impact Analysis, and their ability to view the issues as scholars. For government analysts, the question is often as simple as whether the VSL should be a single value or be represented with a range. If it's to be a range, then what should the range be – it could be based on population characteristics or data sources? In regard to the first question, using a single, central estimate implies that there is only one real VSL estimate. If a range is used, then the question is how to adjust the VSL for the socioeconomic characteristics of the population. Dr. Keeler noted that having as precise as possible a bottom line from the EEAC would be an important factor in resolving the annual "fights" that occur over the issue. As an example of a hanging issue, Dr. Keeler stated that in its earlier report, EEAC language noting that the Jones-Lee approach might be explored, has been used by some to justify using it in the regulatory arena. If the EEAC does not continue to advance the science on PMV issues, other processes will take over. CEA feels that the EEAC is the best place for a dialogue on these issues to take place.

Dr. Art Fraas reemphasized the importance of obtaining guidance on whether the single VSL estimate as now used is the only one supportable, or if there are other estimates. If the policy is to use multiple estimates, then the question becomes how to do so? Dr. Fraas passed out a CEA/OMB letter to Dr. Stavins of May 10, 2001 conveying their "Concerns with EPA's Current Approach for Valuing Premature Mortality" (passed out later in the meeting). The letter requested interim guidance on many important VSL issues. (See Attachment F).

Dr. McGartland passed out a number of handouts for the discussion, including: a) the Perciasepe letter mentioned earlier by Dr. Stavins (Attachment G), b) a list of working papers for a Summer 2001 AERE workshop on VSL (Attachment H), c) a list of specific questions on VSL estimates (Attachment I), d) a workshop protocol and agenda for an EPA STAR workshop on VSL, to be held in the Fall of 2001 (Attachment J), and e) the January 21, 2000 Cancer Risk Whitepaper "Valuing Fatal Cancer Risk Reductions" that was reviewed during 2000 by the EEAC (Attachment K).

Dr. Stavins asked if the suggestion of conflicting advice from EEAC and the Council for EPA was an accurate concern? Dr. Fraas said that he did not believe the advice between the two was inconsistent.

Dr. Cropper, Council liaison to the EEAC for the issue, briefed the Committee on how the current VSL came to be. She stated that the current value is derived from some 26 studies that were in place before the Council was established to review EPA's efforts to retrospectively and prospectively evaluate the costs and benefits of the Clean Air Act implementation. There has been no evaluation of how the studies containing the values were selected for inclusion on the list. She contrasted this with use of information from the field of epidemiology where reanalysis of studies is frequent and that criteria exist

for deciding which studies are to be included in any reanalysis, i.e., which reach some threshold of quality. Dr. Cropper stated that there is no comparable approach in economic analysis. There is a need to develop the basic criteria for deciding which studies should be used when deriving a VSL estimate. i.e., which studies are of sufficient quality to use. To go further, once the set of “good” studies has been identified, one might then do a formal metaanalysis. To do so, one would need to identify the sources of uncertainty in each study (e.g., statistical methods used, model uncertainty, etc.). She noted that what to value is, in theory, clear. It is the conditional probability of dying at a certain age.

In the discussion that ensued, members noted a number of issues that they considered to be important when one goes about assigning such values for the regulatory process. These included:

- a) the need for criteria to decide which studies count;
- b) serious equity issues are involved in deciding on how to adjust a derived VSL for socioeconomic factors;
- c) estimates that assign different values to different peoples’ lives are controversial in policy development;
- d) important questions yet to be resolved push the disciplinary limits of economics as used in the policy development process;
- e) it may be that the best that can be achieved now is to show which cases are clear and which are not;
- f) economics has the ability to make statements about some of the contentious issues;
- g) one could revisit the issue of which studies are valid, apply modern statistics to those so judged and use the resulting studies to derive a range of values that could be used;
- h) ranges are important; they can help to show the level of uncertainty in the estimates and give a sense of where research is needed -- a range without an awareness of the criteria used for selecting it could make the issue subject to manipulation;
- i) to focus on the original 26 studies alone implies that we have learned nothing more since they were conducted – any criteria developed should do so by using the knowledge we have gained since those days.

Dr. Goulder noted that from the above there appear to be five relevant issues:

- a) which studies used reasonable methodologies,
- b) what is measured (e.g., VSL, VSLY),
- c) demographic adjustments,
- d) benefits transfer (e.g., how people view risk is important in deciding when a VSL can be transferred from one arena to another), and
- e) whether in some cases, cost-effectiveness analysis might be more useful than benefit-cost analysis.

Mr. Jim Laity, Office of Management and Budget, was recognized for the purpose of making a statement from the public observers. He stated that regardless of whether one resolves the issue of using

a range or a single estimate, or any of the other issues noted, government agencies are faced with the problem daily even though, as noted by this group, the state-of-the-science is not so good. Regulations are often broad and an average VSL does not totally mis-characterize (mis-communicate) the issue for decision makers. However, to apply a VSL from a labor market where workers are of prime age and largely healthy condition, may fundamentally mis-communicate the bottom line to decision makers when that VSL is applied to environmental risks that occur much later in a person's life. Therefore, any short term advice the Committee can provide will help us.

Mr. James DeMocker, EPA Office of Air and Radiation, noted that the range used in the 812 studies was not simply that represented by selecting the lowest and highest values. It was derived following advice of the Council to integrate information on uncertainty into the range. For the next prospective 812 study, the agency will be proposing the use of 68 studies and nine criteria to be applied to them to develop an estimate for use in the near term.

Dr. Stavins summed up by stating that the EEAC's role is not to advise on regulatory policy, but rather to focus on economic analysis issues themselves and the uncertainty of various methods. Many issues we raise are quite interesting, some may be outside our purview. Past EEAC advice has been given on some of the topics (e.g., advice that favored VSL's based on willingness to pay over life year approaches). He stated that the purpose of the day's discussion was to decide where to go in the future to help EPA with the VSL issue and that past advice could be revisited if the Committee chooses to do so. The EEAC seems ready to welcome a charge from EPA on the issues that remain. In regard to the information from Mr. DeMocker on the next CAA 812 prospective study, Dr. Stavins intends to coordinate with the Council in a manner that will provide feedback between the two groups. He noted that two members of the day's EEAC panel are also members of the Council.

#### **4. SAB Consultation on EPA's Plans for Implementing Executive Order 13141 *Environmental Review of Trade Agreements.* (12:30 pm)**

Dr. Stavins introduced the "Consultation" with EPA on their proposed analytical methods to be used to carry out a Presidential Executive Order on "Trade and the Environment." He introduced Professors Barrett and Levinson who had been added as Consultants to the panel for this Consultation.

Dr. Stavins noted that the Executive Order (from November of 1999) requires the U.S. Government to assess environmental impacts during the negotiation of trade agreements. EPA's National Center for Environmental Economics is working with the International Trade Commission and the U.S. Trade Representative to comply with the Executive Order. In particular, the National Center is developing a "Trade and Environment Assessment Model" to predict the environmental impacts of economic changes estimated by the ITC.

Dr. Stavins reminded the panelists that the intent of a Consultation is to hear of the Agency's plans at a time that is early in their developmental process, and to allow individual panelists to provide their own thoughts to EPA to help it leaven its thinking prior to full development of the analytical method. The purpose is *not* to develop a consensus opinion of the Committee and the EEAC will not now be producing a report to the Administrator conveying any advice. He noted that Committee staff earlier provided the following background materials for the session: a) Executive Order 13141, b) a Project Sheet discussing the Agency's needs, and c) a draft presentation by EPA on its plans for implementing the Executive



Order. He stated that there were to be three speakers on the agenda: a) Dr. David Walters, Chief Economist, Office of the U.S. Trade Representative, b) Dr. McGartland, and c) Dr. Ann Wolverton, NCEE.

Dr. David Walters, U.S. Trade Representatives Office, noted that the intent of the Executive Order is to ensure the provision of information for use during negotiations. The Free Trade Agreement for the Americas will be the first major trade agreement to be subjected to the Executive Order. Dr. Walters summarized important characteristics of the order: a) calls for a comprehensive analysis of environmental affects in the U.S.; b) that EPA is the lead in the environmental piece, though other agencies will be involved (e.g., USDA, DOE); and c) that EPA is charged to provide advice to support the overall analysis.

Because the “all environmental effects” charge for the U.S. is so daunting, the task has been narrowed using an “opportunistic” approach. A “Core Analysis” will be conducted using available resources. ITC will look at its model of 485 sectors to provide information to serve as inputs for EPA’s evaluation. In like manner, USDA will use available information on global water and land usage and information on U.S. regions for its work. USTR has advised other agencies to do a scoping exercise of their own to identify issues that may not be covered in the Core Analysis. Recommendations have been made to canvass the public, other government agencies, and academia.

Dr. McGartland, Director, NCEE, discussed EPA’s current plans. He asked the Panelists to react if they thought EPA had missed things or if their approach was on the wrong track. He asked if the approach was analytically sound, and if the most important issues been identified? (See Attachment L for background information). TEAM (Trade and Environment Analysis Model) will provide results in terms of regional emission and environmental quality changes for about 1100 sectors across multiple pollutants. It will translate input data from trade models into commodity codes (NAICS), disaggregate estimated output changes geographically, apply emission factors and resource use intensities by NAICS code and geographic region, and present impacts of output changes on emissions and resource use by medium, region, pollutant/resource type, commodity or other aggregations. In the future, TEAM will estimate changes in ambient concentrations and resource stocks, and estimate impacts on human and ecological health, use and existence values, and other measures of social welfare.

Dr. McGartland also discussed the TEAM pollutant coverage, the underlying data sources and emission and resource intensity factors to be used in the analysis, as well as, limitations on the use of average emission factors. He noted that in regard to the inputs, it is possible that historic and future emission factors may vary. Some follow-on analyses will also be conducted. Decision rules for when to conduct additional analyses need to be developed.

Dr. Anne Wolverton, NCEE, discussed potential trade and environment research topics. In the domestic economy there are concerns for interaction of pre-existing distortions with trade and the environment. In the area of less-developed trading partners, concerns exist in regard to the environmental Kuznets curve, pollution havens, and multinational firms’ use of technology. Dr. Wolverton presented background information and research questions that might be addressed in each of these areas.

Panelists then noted their reactions to the presentation. Dr. Levinson suggested that TEAM is really about composition and technique effects. EPA should stop at the effect level and should not get into predicting U.S. policy responses in its analysis.

Dr. Barrett stated that EPA's proposed approach is reasonable and it is the right approach. He urged care in the Kuznets area – this is not telling us anything about the optimum. As for the technique side, he noted that trade can move us towards standardization of products within trading regions. This can be a mixed blessing because, in some cases, it is possible to get locked into less than desirable standards. He also stated that there does not appear to be anything on greenhouse gasses, fisheries, diseases that can move across trading partners (BSE, foot and mouth, etc.), and invasive species.

Other panelist's comments included:

- a) There may be some missing issues, such as the effect of existing environmental regulations on outputs (for example the level of coal output now is conditioned by existing regulations; the agricultural sector enjoys now, and will continue to enjoy, substantial Congressional support);
- b) environmental rules are often suggested to be covert market protection mechanisms;
- c) nations, notwithstanding trade agreements, still remain sovereign and can chose not to comply, but there are possible international responses for noncompliance;
- d) the EO provides EPA with a huge task – for instance, how will it be integrated with the aforementioned Energy Impact Analysis?
- e) the model is designed for application to trade issues, but EPA should consider how it could be developed for other uses as well;
- f) use of STAR funds for trade research may not be the best use of the funds;
- g) looking at how environmental policies are formed in other countries could be a useful research area;
- h) the results of a project at Harvard on the econometric analysis of factors affecting land-use changes could be useful to EPA;
- i) building capital flows into the model would be difficult – one may, however, wish to consider a narrative discussion from existing flow models into the environmental analysis;
- j) regarding research in general, EPA should attempt to give early notification to researchers so they have time to prepare meaningful proposals.

Dr. Stavins asked the Panelists if they would be in favor of an EEAC *formal generic review* of EPA's methodology, should one be requested. The Panelists were in favor of doing something in this regard in the future. Doing a review after some use of the model in actual negotiations might be useful.

## **5. Interaction with EPA Office of Enforcement and Compliance Analysis (OECA) on the BEN Model (1:40 pm)**

Dr. Stavins then introduced an abbreviated session on the economic benefits from noncompliance with environmental laws and the related BEN model.

He reminded the panelists that BEN is a two part issue. Part one focuses on BEN modifications. The BEN model addresses the gain from delay and avoidance of expenditures for pollution controls that are required by various regulations. The model is used to compute benefits for these two categories when

non-complying institutions agree to reach settlements with EPA. The BEN model was peer reviewed in the early 1990's. In addition, EPA requested, received, and responded to public comments from 1996 to 1998. Part two addresses what EPA calls "Illegal Competitive Advantage" (ICA).

Committee Staff had earlier provided background documents for both BEN and ICA, including in each case a Project Sheet and an attachment giving additional detail on the issue. The Agency previously requested that EEAC review the BEN model and the Illegal Competitive Advantage (ICA) issue. Dr. Stavins noted that he had considered their request and provided an opportunity at this meeting for them to brief the EEAC to see if this Committee should and would wish to conduct a review. A Federal Register notice resulted in a number of interested individuals and groups from the public requesting time on the agenda to comment on the Agency request, on the BEN model itself, and on some additional issues.

However, on May 24, 2001, Agency officials asked for a postponement of the EPA-EEAC discussion of the BEN request until their new Assistant Administrator is appointed and confirmed. Dr. Stavins noted that because EPA withdrew their request, the EEAC would not take on the BEN/ICA issue in detail at this meeting, but would wait for EPA to reactivate their request once their AA is on board. Even so, because of the prior Federal Register notice of the EPA-EEAC discussion, and because a number of people from the public had asked for time to comment, and had prepared to do so at this meeting, Dr. Stavins provided those persons with the opportunity to make their comments. He further noted that their comments would be part of the minutes of the meeting and as such would be available to EPA if it chooses to consider them as it decides on the course it will take for peer review of the benefits recapture issue.

Dr. Stavins then called on the three public commenters who had previously registered for the meeting to come forward and make their statements. Persons making statements included:

- a) Dr. Jasbinder Singh, Policy Planning and Evaluation, Inc.
- b) Mr. Robert Fuhrman, Principal, The Brattle Group, and
- c) Dr. Kenneth Wise, The Brattle Group, on behalf of U.S. Department of Defense

Mr. Paul Wallach, Corporate Environmental Enforcement Council, Inc. withdrew his request to speak the day prior to the EEAC meeting. Ms. Andrea B. Field and Maida O. Lerner, Hunton and Williams, submitted written comments for the record for the Utility Air Regulatory Group, but they did not request time on the agenda to speak.

The public statements of the commenters as well as their previously submitted materials and the information submitted by Mr. Wallach and Ms. Fields and Lerner, can be found in Attachments M, N, O, P and Q of these minutes.

## **2:25-2:30 PM, Plans for Next EEAC Meetings**

The Committee decided on the following action items:

- a) Premature Mortality Valuation: Move forward to obtain a formal charge from the Agency and plan a meeting to continue the discussions in the late summer or early fall.
- b) Trade and Environment: There was moderate interest on the part of the Committee to do additional work on the issue. A charge may be prepared by EPA for a generic assessment of the methodology later.
- c) BEN Model and ICA: The Committee will wait for the Agency to re-open issue.

A date for the next EEAC meeting will be arranged soon. The DFO, Tom Miller and the SAB staff will set up the meeting.

**2:30 pm      Adjourned**

I certify that these minutes are accurate to the best of my knowledge.

**/ S /**

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Dr. Robert N. Stavins  
Chairman  
Environmental Economics Advisory  
Committee

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Mr. Thomas O. Miller  
Designated Federal Officer  
Environmental Economics Advisory  
Committee

ATTACHMENTS

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- B Meeting agenda
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- F May 10, 2001 letter to Dr. Stavins from CEA and OMB
- G Letter from Robert Perciasepe, December 2000
- H List of working papers for Summer 2001 AERE VSL workshop
- I Questions on VSL estimation
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- K Valuing Fatal Cancer Risk Reductions paper, EPA
- L NCEE overheads on TEAM
- M Comments on BEN/ICA from Dr. Singh
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- O Comments on BEN/ICA from Kenneth Wise
- P Comments on BEN/ICA from Paul Wallach
- Q Comments on BEN/ICA from Andrea Field and Maida Lerner